

200 SERIES

M.T.E.

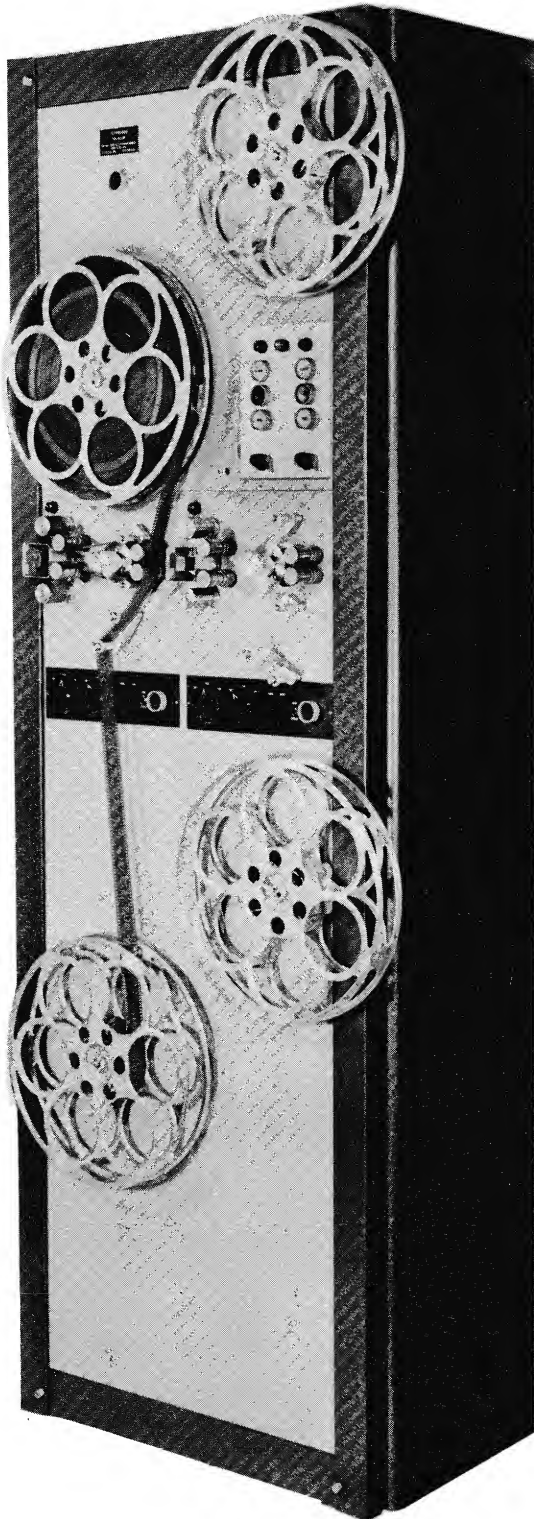
**DUAL MAGNETIC
DUBBER**

FEATURES

- *Space Economy*
- *Two Independent Transports*
- *3000 feet Reel Capacity*
- *Rapid Threading*
- *Automatic Loop Setter*
- *Reversible Sprocket Drive*
- *Automatic Torque Motor Cut-Off*
- *Electro-Magnetic Spindle Brakes*
- *Fast Wind and Rewind*
- *Solid State Electronics*
- *Plug-in Magnetic Heads*
- *Interlock Phasing Circuit*
- *Two Year Guarantee*

OPTIONS

- *Multi track playback assemblies*
- *16/35 mm Combination*
- *High Speed Through Sprocket*
- *Interlock Motors*
- *Sprocket Decoupling Knob*
- *Recording Assembly*



MAGNA-TECH ELECTRONIC CO., INC.

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DESCRIPTION

GENERAL

The 200 Series Dual Dubber is designed to play back 16mm, 17½ mm or 35mm (depending on the model) magnetic film for studio re-recording.

The cabinet contains two complete electrically and mechanically independent dubbers. They are built on common panels with the film feeding from top to bottom. Adjacent cabinets can be joined for multiple installation.

One of the transports can be equipped for recording. The sprocket can be driven by either the synchronous motor or it can be interlocked with other motion picture equipment. The reel spindles are directly driven by torque motors.

FILM TRANSPORT

The film transport is mounted on a cast aluminum alloy plate ⅜" thick, stress relieved and precision ground. The mechanism employs a double flywheel flutter suppressor system and a single film sprocket with a precision worm gear speed reducer.

Sound drums, rollers and shafts are precision machined from non-magnetic stainless steel. Ball bearings used are of the selected stainless steel type. A quartz precision dashpot with a self-lubricated piston provides effective dampening of film motion against disturbances caused by film splices. The unit has an automatic film loop setter which locks the filter rollers when threading, assuring the correct length of the film loop. A detented tension switch adjusts for correct filter roller position.

A sprocket inching knob is used to align the start mark. The sprocket can also be declutched (optional) from the motor drive, when in interlock. The film will run both forward and reverse through the sprockets

for sync or interlock operation. High speed drive through the sprockets is available as an option.

In the combination 16/35 mm or 17½/-35 mm dubbers the tight loop film pulling mechanism permits complete interchange from one film size and speed to the other without altering or modifying the film transport.

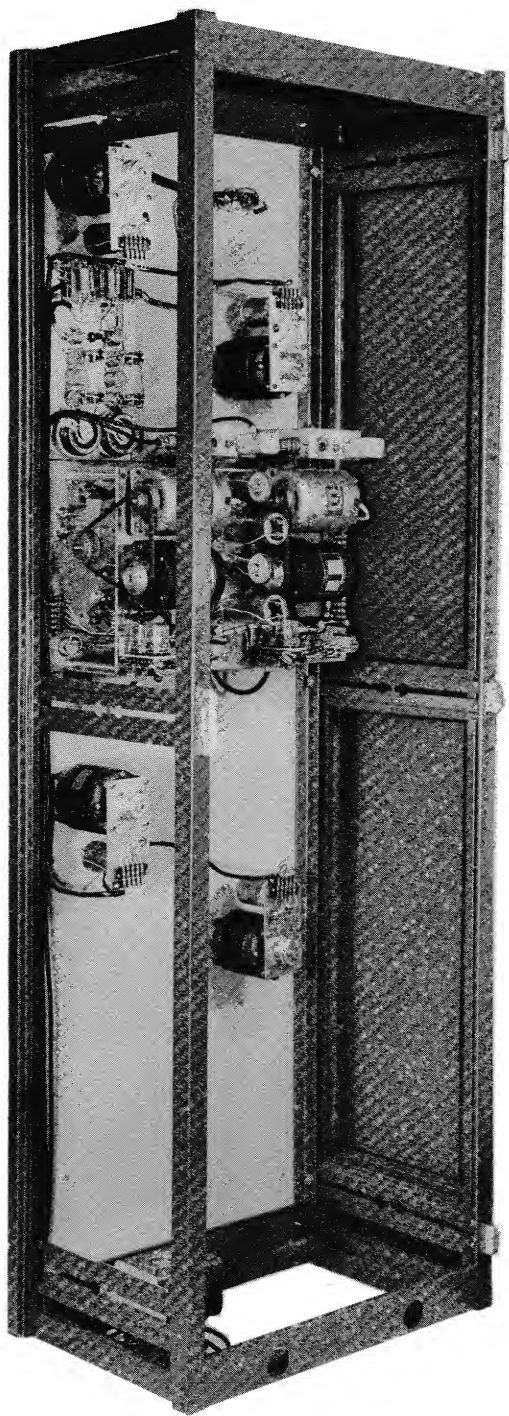
DRIVE MOTOR and CONTROLS

The drive motor system is mounted on a vertical sub-panel supported from the main film transport panel. This panel contains the synchronous motor, the interlock motor and the associated controls. These motors are coupled to the speed reducer by a timing belt and timing gear pulleys which give the correct speed ratio.

The motor selector switch connects the sync motor for local operation or the interlock motor to bus 1 or bus 2 for remote interlock operation. The Forward-Off-Reverse switch controls the sync motor. The third speed of the single phase sync motor is used to drive the film through the sprocket at high speed, either forward or reverse (optional).

In the combination dubber, a speed selector switch selects the correct speed of the multi speed sync motor, the 16 or 35mm interlock motor and the correct equalizer in the playback amplifier. The two speed interlock buss is powered from a 1200 rpm master distributor and a 600 rpm sub-distributor which is timing belted to the main distributor's rotor.

The interlock phasing circuit prevents leaving a stalled interlock motor on the buss in an incorrect rotor position. The phasing circuit relay closes only after the rotor has been correctly aligned.



TOP PANEL

Feed motors, reel spindles, torque motor controls, and amplifiers.

CENTER PANEL

Film transport, drive motors, motor controls and magnetic heads.

BOTTOM PANEL

Take up motors and reel spindles (recording amplifier optional).

FEED and TAKE-UP REELS

The take-up and rewind system consists of two torque motors directly coupled to the reel spindles. Each spindle has an electromagnetic brake to prevent the film from unspooling. When film is threaded through the sprocket and the cut off switch (film path roller) is actuated, the torque motors will respectively hold back and take up the film in both forward and reverse operation. The brakes are released whenever the torque motors are powered.

A pilot light will indicate that both torque motors are being powered. Each upper spindle's rotation can be reversed by a CW/CCW switch to accommodate "A" or "B" wound reels. A rheostat is provided to adjust the amount of torque for different size reels from 400 to 3000 ft. The film can be wound or rewound from reel to reel at high speed. This is controlled by the wind or rewind push buttons. The film path cut off switch applies the reel spindle brakes when the film runs out, and switches off the power to the take-up torque motors.

HEADS

The magnetic heads are pre-aligned and mounted on plug-in assemblies which include the connector. When changing the heads for different tracks, re-alignment is not necessary. The dubber heads are surrounded by a heavy mu-metal shield can.

ELECTRONICS

The transistorized playback amplifiers are mounted on the upper reel spindle panel. The amplifiers are powered from a regulated 28V power supply in the bottom of the cabinet. All amplifier connections are plug-in. When changing the film speed, the amplifier equalization is also automatically changed. Equalization controls are provided to initially adjust the playback frequency characteristics. All torque motor circuits are designed to produce no start/stop clicks in the audio system.

SPECIFICATIONS — 200 SERIES

FILM CAPACITY

3000 feet (using 17" reels)

FILM DRIVE CONTROLS

Sync speed selector
Sync motor switch, FWD-STOP-REV
Selector - INT 1 - Sync - INT 2
High speed push button (optional)
Flutter suppression roller tension adjustment

REEL SPINDLE DRIVE & CONTROLS

Single phase torque motors
Reel size take-up torque selector
Selector CW/CCW rotation upper spindle
Automatic film cut-off switch
Wind and rewind push buttons

REWIND TIME

400 feet ½ minute
1000 feet 1 minute
2000 feet 2 minutes

POWER

115V AC 50 or 60 cycles - 6 amps

FLUTTER

0.08% RMS at 90 fpm
0.10% RMS at 36 fpm

MAGNETIC HEADS

.200" wide standard track
17½ & 35mm #1 location
16mm edge track,
Center and multi track optional

OUTPUT

600 ohms ungrounded

RESPONSE

Standard 16, 17½ and 35mm curves

DISTORTION

0.5% THD at +16 dbm output level

SIGNAL TO NOISE RATIO

65 Db below 100% output

DIMENSIONS & WEIGHT

83" H x 18" D x 27" W
300 lbs.

STANDARD MODELS

MD-235	35mm	90 fpm	Single Speed Dual Magnetic Reproducer
MD-216	16mm	36 fpm	Single Speed Dual Magnetic Reproducer
MD-236	16/35mm	36 & 90 fpm	Two Speed Combination Dual Magnetic Reproducer
MD-237	17½/35mm	45 & 90 fpm	Two Speed Combination Dual Magnetic Reproducer

MOTOR DRIVES AVAILABLE

MD-216 or MD-235

- a) 1 phase sync, and 1 phase or 3 phase interlock
- b) 1 phase or 3 phase composite sync/interlock

MD-216 or MD-235 — with optional high speed feature —

1 phase sync 3 speed, and 1 phase or 3 phase interlock

MD-236 or MD-237 — with standard high speed feature —

1 phase sync 3 speed, and 1 phase or 3 phase interlock

Full two year guarantee on any defective parts except those encountering normal wear.